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Estrogen Replacement Therapy hit the mainstream in January of 1964 when Newsweek published an article entitled "NO MORE MENOPAUSE" based on New York gynaecologist Robert A. Wilson. Wilson subsequently authored a book entitled "FEMININE FOREVER" that taught the virtues of estrogen replacement therapy as a fountain of youth that would prevent women from experiencing the tragedy of menopause which would leave them dried up, sexless and depressed.

Symptoms related to menopause, including insomnia, nervousness, melancholia, vertigo, weakness, fatigue, hot flashes, vaginal dryness, and urinary incontinence, denote a decline in a
woman's quality of life. Further, the symptoms a woman may experience vary according to age:

30s—Early symptoms can include menstrual irregularity or heavy vaginal bleeding. A modest, natural loss of bone also begins.

40s—As estrogen levels begin to decline, women may experience hot flashes, night sweats, and menstrual irregularity. Women who have surgical menopause may experience more severe symptoms, as well as vaginal dryness and bone loss, due to a rapid decline in estrogen.

50s—After menopause, as much as 20 percent of total lifetime bone loss occurs within five to seven years. There is an increased incidence of hot flashes, night sweats, and vaginal dryness. As well, incidence of cardiovascular disease (CVD) begins to increase.
60s—Incidence of osteoporosis, CVD, colon cancer, vaginal dryness, and related sexual problems all increase.

70s—The incidence of CVD more than doubles. As well, the incidence of Alzheimer's disease begins to increase, which affects more women than men.

80s—Incidence of Alzheimer's disease rises sharply, doubling every 4.5 years. Eye conditions, such as cataracts, also become increasingly common.

Hormone replacement therapy is the administration of the female hormone estrogen and progesterone.

Estrogen replacement therapy refers to administration of estrogen alone.

The hormones are usually given in pill form. They can also given in the form of skin patches and vaginal cream.
The use of hormone replacement therapy is highly effective for improving the quality of life of women suffering from acute symptoms of menopause such as hot flashes, night sweats, insomnia, increased fatigue and irritability, depression, skin changes, vaginal dryness and incontinence.

There was significantly evidence that HRT provides some long term protection against cardiovascular disease, osteoporosis and colon cancer.

In 1995, the results of the largest study to date were published in the New England Journal of Medicine. Postmenopausal women using HRT for five or more years have a 30-40% greater risk of developing breast cancer than do women who do not use hormones.

On the other hand HRT users have a 29% reduction in colon cancer risk.
HRT has also been linked with an increase in the risk of ovarian cancer.

A 1995 study in the American Journal of Respiratory and Critical Care Medicine reported that women on HRT were 50% more likely to develop adult onset Asthma than those who did not take hormones.

ERT (Estrogen replacement therapy) is indicated following patient:

Menopause

Hot Flashes

Vaginal atrophy

Urinary tract symptoms

High risk for osteoporosis

Family history

Cigarette smoker

Low body weight

Radiologic evidence
It was found that ERT (Estrogen replacement therapy) cause pre-cancerous or cancerous changes in the uterine lining of nearly a third of the women taking it. The reason is that estrogen stimulates cell division, including cells in the uterine lining, breast and ovaries. The risk of uterine cancer was soon overcome by adding synthetic progestins. Which resulted in a menstrual period each month in which any damaged uterine lining cells could be shed. ERT had become HRT, at least for women who still had an intact uterus. The drawback of this approach is that menopausal women resume monthly bleeding.

**Contraindications for estrogen replacement therapy (ERT)**

**Absolute:** Pregnancy

Undiagnosed uterine bleeding

Active thrombophlebitis

Current gall bladder disease

Liver disease
Relative: History of breast cancer

History of recurrent thrombophlebitis or thromboembolic disease

Lipids and hormone replacement therapy in menopause

During menopause decreased estrogen production results in increased levels of

Low density lipoprotein (LDL)

Lipoprotein (a)

Increased levels of LDL and lipoprotein (a) are markers of increased cardiovascular risks.

The effect of estrogen or serum lipids in related to the increased catabolism of LDL cholesterol which up regulates LDL receptors in the liver, increases production of bile acids (thereby increasing cholesterol clearance) and reduces catabolism of high density lipoprotein (HDL) cholesterol.
Most studies suggest that Estrogen therapy in postmenopausal women leads to decreased concentrations of

Total serum cholesterol

Low density lipoprotein cholesterol

Lipoprotein (a)

Apolipoprotein B

and increased levels of

Serum high HDL cholesterol

Triglycerides.

The lipid-lowering effects of transdermal estrogen preparations are much less significant than those of oral preparations.

Estrogen therapy also improves vasomotor tone, increased insulin sensitivity, attenuation of atherogenesis and improved myocardial relaxation.
Premarin is the brand of synthetic estrogen known as "conjugated equine estrogens," it is made from horse urine. Its manufacturer is Wyeth-Ayerst.

The *Heart and Estrogen/progestin Replacement Study (HERS)* was a randomized trial of daily 0.625 mg conjugated estrogen (Premarin®) plus 2.5 mg medroxyprogesterone (Provera®) that involved 2,763 women with documented CHD. Followed for four years, these women showed no significant difference between hormone replacement therapy (HRT) and placebo in any cardiovascular outcome or all-cause mortality. In the first year of treatment, cardiovascular events actually increased by 50 percent in the HRT group. Thereafter, there was a significant decline in the trend of events in this group.

The recent *Estrogen Replacement and Atherosclerosis (ERA)* study found that women followed for three years while taking estrogen or estrogen plus progesterone experienced no difference in CV event rates compared to women taking placebo.
There is so much discrepancy of better effect of hormone replacement therapy on lipid lipoprotein profile. These studies prompt up to evaluate the effect of estrogen on extended lipid lipoprotein profile.